## **REMARKS**

Favorable reconsideration and allowance of the present application are respectfully requested in view of the foregoing amendments and the following remarks.

Currently, new claims 42-68 are pending, including independent claims 42 and 60. Claims 28-41 were previously cancelled, and claims 1-27 are being cancelled in this paper.

Independent claim 42, for instance, is directed to a soft tissue product that has a relatively low level of lint and slough, where the tissue product comprises at least one paper web formed from a cellulosic fibrous material and a flexible binder applied to the paper web. The flexible binder is a copolymer formed from at least the following monomeric constituents: a) an ethylenically unsaturated monomeric constituent; and b) an unsaturated polysiloxane monomeric constituent. Claim 42 sets forth specific formulae for monomers contained in both the ethylenically unsaturated monomeric constituent. In particular, the ethylenically unsaturated monomeric constituent of the copolymeric flexible binder in claim 42 contains one or more ethylenically unsaturated monomers having the following formula:

$$\begin{array}{c|cccc}
R_{11} & R_{13} \\
 & & \\
C & C \\
 & & \\
R_{12} & R_{14}
\end{array}$$

wherein  $R_{14}$  is a hydrophobic group. The copolymeric flexible binder increases the strength of the claimed tissue product and reduces lint and slough without substantially stiffening the resulting, relatively flexible tissue product. (Appl., p. 8, lines 18-25; p. 9, lines 3-23).

Original claims 1-13 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,224,714 to <u>Schroeder</u>, et al. The Office Action stated that <u>Schroeder</u>, et al. "shows the claimed polymer as a strength agent for absorbent tissue paper," pointing especially to columns 13 and 14. Additionally, original claims 14-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over <u>Schroeder</u>, et al.

Schroeder, et al. is directed to synthetic polymers having groups capable of hydrogen bonding or covalent bonding with the cellulose molecules in fibers, and one or more polysiloxane moieties, wherein the backbone of the synthetic polymers is based on modified vinyl polymers, such as polyvinyl alcohol, polyacrylamides, and polyacrylic acids. Schroeder, et al. states that its combination of synthetic polymers into a single molecule with polysiloxane moieties results in a combined molecule that can provide several potential benefits (i.e., impart two or more distinct product properties to a paper product) where previously two or more different molecules would have been required. (Col. 1, line 49 – col. 2, line 2). The general formula set forth throughout the disclosure of Schroeder, et al. for its synthetic polymer having hydrogen bonding capability, as well as one or more polysiloxane moieties, is the following:

$$--[--(Q_1)_a--(Q_2)_b--(Q_3)_c--(Q_4)_d--]_w--$$
.

Schroeder, et al. also generally describes its "synthetic polymers" as having a portion of their structure derived from the polymerization of ethylenically unsaturated compounds which contain pendent groups that can form hydrogen bonds, ionic bonds, or covalent bonds with the cellulose materials in fibers, thereby increasing interfiber bonding. (Col. 2, line 36 – col. 3, line 29; col. 2, lines 8-13).

However, Schroeder, et al. does not disclose or suggest the tissue product of Applicants' independent claims 42 and 60. For instance, Schroeder, et al. does not disclose or suggest a tissue product having a relatively low level of lint and slough, nor does Schroeder, et al. disclose or suggest the particular flexible binder recited in Applicants' claims. Specifically, the ethylenically unsaturated monomeric constituent of Applicants' claimed copolymeric flexible binder contains at least one ethylenically unsaturated monomer having the formula:

$$\begin{array}{c|cccc} R_{11} & R_{13} \\ & & \\ C & C \\ & & \\ R_{12} & R_{14} \end{array}$$

Appl. No. 09/943;412 Amdt. Dated March 22, 2004 Reply to Office Action of December 16, 2003

wherein R<sub>14</sub> is a *hydrophobic* group. The presence of this hydrophobic group in the copolymeric flexible binder provides the ethylenically unsaturated monomeric constituent of the binder with relatively hydrophobic properties and, in turn, increases the binding capabilities of the flexible binder. (See Appl., p. 10, line 22 – p. 11, line 18). Additionally, the construction and flexibility of the binder contribute to a resulting tissue product that is relatively flexible. (Appl., p. 9, lines 16-23). The flexible binder of Applicants' claimed tissue product, then, increases the strength of the tissue product and reduces lint and slough without substantially stiffening the resulting tissue product. (Appl., p. 8, lines 18-25; p. 9, lines 3-23).

No such flexible binder is taught or suggested by <u>Schroeder, et al.</u> Rather than disclosing a copolymeric flexible binder where an ethylenically unsaturated monomeric constituent contains one or more ethylenically unsaturated monomers having a *hydrophobic* group (like  $R_{14}$  in claims 42 and 60), <u>Schroeder, et al.</u> repeatedly describes its " $Q_4$ " monomer unit or copolymer (in its general formula --[--( $Q_1$ )<sub>a</sub>—( $Q_2$ )<sub>b</sub>—( $Q_3$ )<sub>c</sub>—( $Q_4$ )<sub>d</sub>--]<sub>w</sub>--) as containing a *hydrophillic* moiety. In <u>Schroeder, et al.</u>, this hydrophillic moiety may be incorporated to *offset the increased polymer hydrophobicity* caused by the introduction of the polysiloxane moieties. (Col. 3, lines 4-12; col. 3, lines 43-51; col. 6, lines 36-44; col. 14, lines 18-24, and so forth).

Thus, <u>Schroeder</u>, et al. does not teach or in any way suggest the copolymeric flexible binder that is applied to the paper web of Applicants' claimed tissue product, where an ethylenically unsaturated monomeric constituent of the binder contains at least one ethylenically unsaturated monomer having a hydrophobic group (like the R<sub>14</sub> group) as required by Applicants' independent claims 42 and 60. Accordingly, Applicants respectfully submit that independent claims 42 and 60 patentably define over <u>Schroeder</u>, et al.

The original dependent claims were also rejected as being unpatentable over the <u>Schroeder</u>, et al. reference discussed in detail above. Applicants respectfully submit, however, that at least for the reasons indicated above relating to corresponding independent claims 42 and 60, the dependent claims patentably define over <u>Schroeder</u>, et al. However, Applicants also note that the patentability of dependent claims 43-59

Appl. No. 09/943;412 Amdt. Dated March 22, 2004 Reply to Office Action of December 16, 2003

and 61-68 does not necessarily hinge on the patentability of independent claims 42 and 60. In particular, it is believed that some or all of the dependent claims may possess features that are independently patentable, regardless of the patentability of claims 42 and 60.

At page 2, the Office Action objected to Figure 1 of the drawings. In response, Applicants are including with this Amendment a Submission of Formal Drawings.

In summary, Applicants respectfully submit that the present claims patentably define over all of the prior art of record for at least the reasons set forth above. As such, it is believed that the present application is in complete condition for allowance and favorable action, therefore, is respectfully requested. Examiner Chin is invited and encouraged to telephone the undersigned, however, should any issues remain after consideration of this Amendment.

Please charge any additional fees required by this Amendment to Deposit Account No. 04-1403.

Respectfully requested,

DORITY & MANNING, P.A.

Jason W. Johnston

Registration No. 45,675

Tara E. Agnew

Registration No. 50,589

DORITY & MANNING, P.A.

P. O. Box 1449

Greenville, SC 29602-1449

Phone: (864) 271-1592

Facsimile: (864) 233-7342

Date: 3/22/04